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S E C R E T

COUNTRY Hungary

REPORT

SUBJECT Search for
Uranium and Other Elements in Coal and
Coal Ashes

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examination of coal and coal ashes for uranium content and other elements.
The report discusses mainly the research work for obtaining uranium from coal
and coal ashes performed by Professor Sandor Szalay of the University of
Debrecen.

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ECONOMIC/SCI. MATRIC

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Search for Uranium in Coal-Ash in Hungary

1. As early as 1950, and possibly even before, investigations were begun into the possible uranium content both of coal in Hungary and of the ash produced by burning this coal. (Professor SZALAY, Sandor (?) of DEBRECEN University was the principal scientist engaged on this work.
2. SZALAY is known to have examined coal deposits in the PECS and KOMLO areas and also the two waste heaps by the old power station in S.E. PECS. One of these consists of ash from the power station and is known to have contained uranium. The other consists of shale and dirt extracted from the coal by the neighbouring coal-washing plant and is believed to have contained little or no uranium.
3. SZALAY concluded as a result of his investigations that uranium had been absorbed by the coal during the "peat stage" of the latter's formation. It was contained only by the organic matter i.e. the pure coal, not the shale and dirt.
4. In view of this, SZALAY visited the Hungarian Mining Research Institute in BUDAPEST to see how the ash-content, or shale content of coal, could be lowered. During his visit, he stated that, providing large quantities of coal could be burnt in one place (e.g. a power station), the uranium recovered from the ash might often give more energy than was obtained from burning the coal.
5. In view of the fact that most of the good coal went to gas-plants and coking-plants (where it was impossible to recover the ash easily) SZALAY had to be content with the inferior coal, or "middling" in which the uranium content was lower. He intended to retrieve both the heavy ash residue left in the ~~grates~~ boilers etc., and also the flying ash.

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6. SZALAY described his work as being conducted in the utmost secrecy.

7. The heaps of waste and ash at PECS have also been examined by members of the Heavy Chemical Industries Research Institute in an attempt to find Germanium and Gallium.

8. Coal-deposits in the PECS and KOMLO area have also been examined in the search for other minor elements. This work was carried out by the Geological Institute, at the suggestion of SZADLTCZNY-KARDOS Elemer, a famous petrologist and head of the EOTVOS LORAND TUDOMANYA EGYETEM.

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